



UP-1080p

HDMI, VGA, YUV, S-Video and Composite Switcher with Scaler



User Manual

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Caution:

This manual mainly introduces the functions, dimensions, accessories, technical parameters and some common FAQ etc.

This manual only provides an instruction for user's operation, and should not be used as the reference for after service. The mentioned functions inside the manual are in consistence with the hardware version till April 2010. Future changes will be supplemented accordingly.

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Safety Cautions:

In order to keep the normal function of the equipment and the user's safety, the following instructions should be followed during the installation, operation and maintenance:

1. The equipment should be well grounded during the installation, and no two-pin plug should be used for power supply. The power supply should be AC and within the range of 100V – 240 VAC, 50/60 Hz.
2. Please do not place the equipment in over-heat or over-cold places.
3. Please keep the equipment in good ventilation, so that the heat can be emitted on time to avoid being overheated.
4. The general power supply should be switched off if the equipment are in humid environment with condensation or are not in use in extended periods.
5. The power supply plug must be unplugged from the socket under the following conditions:
 - a: Remove or reinstall any components of the equipment
 - b: Cut off or re-connect the power supply or other circuit
6. There is high voltage component inside the equipment, please do not dismantle the equipment without professional knowledge to avoid electric shock and further damage to the equipment.
7. Please keep eroding chemicals and fluid far away from the equipment.

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1 Product introduction

1.1 Product Overview

UP-1080p is a scaler/switcher designed for multi-signal processing, signals of composite Video, S-Video, Component, VGA and HDMI can be scaled to be high-resolution VGA/HDMI format and switched out. New generation has added HDMI in/out, more suitable to the increasing AV market where high resolution signal prevails.

This product is mainly used by radio and television broadcasting, multimedia conference room, large screen display works, television instruction, command and control centers and other occasions.

1.2 Main function

Video/Audio Input

- 2 x Composite(RCA) with stereo audio (Phoenix balanced Audio)
- 2 x S-Video (4-pin mini DIN) with stereo audio (Phoenix balanced Audio)
- 2 x Component (RCA) with stereo audio (Phoenix balanced Audio)
- 2 x VGA (D-Sub HD15 female) with stereo audio (Phoenix balanced Audio)
- 4 x HDMI with digital audio (HDMI connector)
- 1 Microphone (6,3 mm Jack)

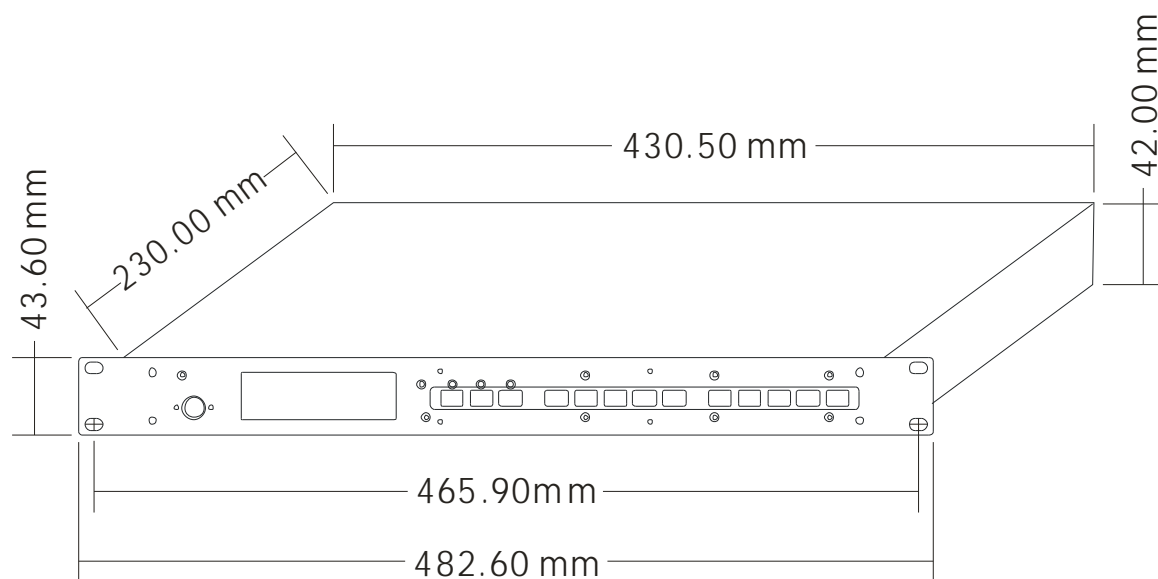
Video/Audio Output

- 1 HDMI (HDMI connector)
- 1 VGA (D-Sub HD15 female)
- 1 stereo audio (2 x RCA)
- HDMI, VGA and Audio outputs work simultaneous

Features

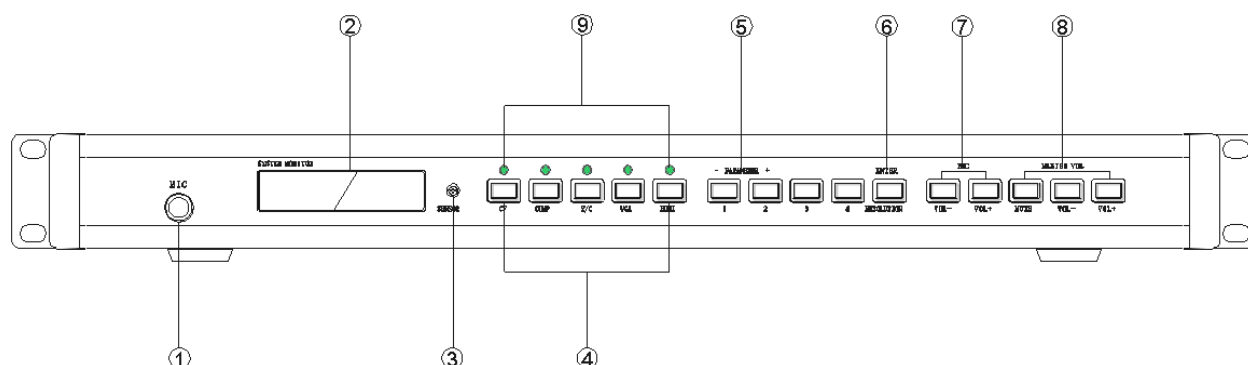
- LCD Display: Real-time monitor of the operating status
- Control Port: RS232, female 9-pin D connector
- Compatible with composite video, S-video, component video, VGA, HDMI, and/or balanced/unbalanced stereo audio
- HDCP conform
- Compatible with NTSC 3.58, NTSC 4.43, PAL and SECAM video
- Resolution: support 480P, 720P, 1080i, 1080p, and XGA, SXGA, SXGA+, WXGA
- 250 MHz (-3dB) bandwidth, fully loaded
- Adjustable luminance, contrast and color
- Seamlessly switching between video signals and from video signal to S-Video signal
- Higher resolution output signal with integrated scaler
- Adopting the gain-compensation and synchronization signal proofread technology
- Power-fail protection
- Rack-mountable enclosure
- Conversion into a VGA / HDMI / DVI video signals, support the following 12 kinds of resolutions to make the output in either.
 - 800×600 @60Hz
 - 1024×768@60Hz
 - 1280×720@60Hz
 - 1280×800@60Hz
 - 1280×1024@60Hz
 - 1366×768@60Hz
 - 1440×900@60Hz
 - 1440×1050@60Hz
 - 1600×900@60Hz
 - 1600×1200@60Hz
 - 1680×1050@60Hz
 - 1920×1080@60Hz

2 Dimensions



3 Functions

3.1 UP-1080p Front Panel



j Input MIC

k LCD display

l IR Sensor

m Signal Source Selection Button

Used to selection the signal source input type, works together with **n**

- CV Signal Switch button, used to select CV signal input. Long-press for 1 second to enter the adjusting mode of brightness, contrast, saturation, sharpness and color. For the detailed operation, please refer to Chapter 6 "CV Settings"
- COMP Signal switch button, used to select VOMP signal input. Long-press for 1 second to enter the adjusting mode of brightness, contrast, saturation, sharpness and color. For the detailed operation, please refer to Chapter 7 "COMP Settings"

- Y/C Signal switch button, used to select Y/C signal input. Long-press for 1 second to enter the adjusting mode of brightness, contrast, saturation, sharpness and color. For the detailed operation, please refer to Chapter 8 "Y/C Settings"
- VGA Signal switch button, used to select VGA signal input. Long-press for 1 second to enter the adjusting mode of brightness, contrast, saturation, sharpness and color. For the detailed operation, please refer to Chapter 9 "VGA Settings"
- HDMI Signal switch button, used to select DVI/HDMI signal input. Long-press for 1 second to enter the adjusting mode of brightness, contrast, saturation, sharpness and color. For the detailed operation, please refer to Chapter 10 "HDMI Settings"

n Signal Source Switch Button

Used to select the corresponding input channel of the signal sources (e.g. 1, 2, 3, 4). Please select the signal source before switching. When choosing DVI/HDMI signal input, short-press the signal source switch button (e.g. 1, 2, 3, 4) to choose HDMI signal source input channel; long-press the signal source switch button (e.g. 1, 2, 3, 4) to choose HDMI (DIV) video signal + Y/C audio signal/VGA audio signal as the corresponding input channel. (E.g. long-press 1/2 button to choose HDMI (DVI) channel 1/2 video signal + Y/C channel 1/2 audio signal as the input signal channels; long-press 3/4 button to choose HDMI(DVI) channel 3/4 video signal + VGA channel 1/2 audio signal as the input channels)

o Display resolution Selection Button

Press the button to enter the resolution setting mode. After entered the resolution setting mode, each press will change a resolution. The LCD displays the current operation information and changes to the selected resolution after 1 second after the press. Under the adjusting mode of brightness, contrast, saturation, sharpness and color, this button can also be used to confirm operation (Enter button).

p MIC Volume adjust button

During the adjustment, there are volume indicating bar on the LCD. The initial value is set to be medium every time the machine is turned on.

Press VOL- : turn down the volume

Press VOL+ : turn up the volume

q Mute button and main volume adjust button

Mute button works on MIC and the main volume at the same time

Main volume button

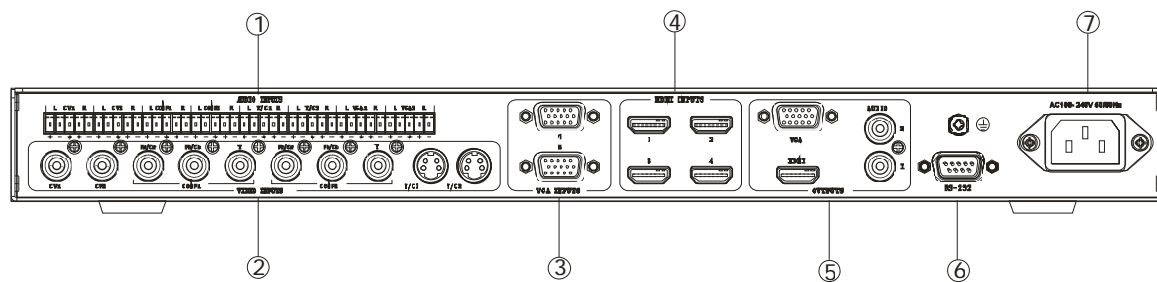
Press VOL- : turn down the volume

Press VOL+ : turn up the volume

r Signal Source Indicator

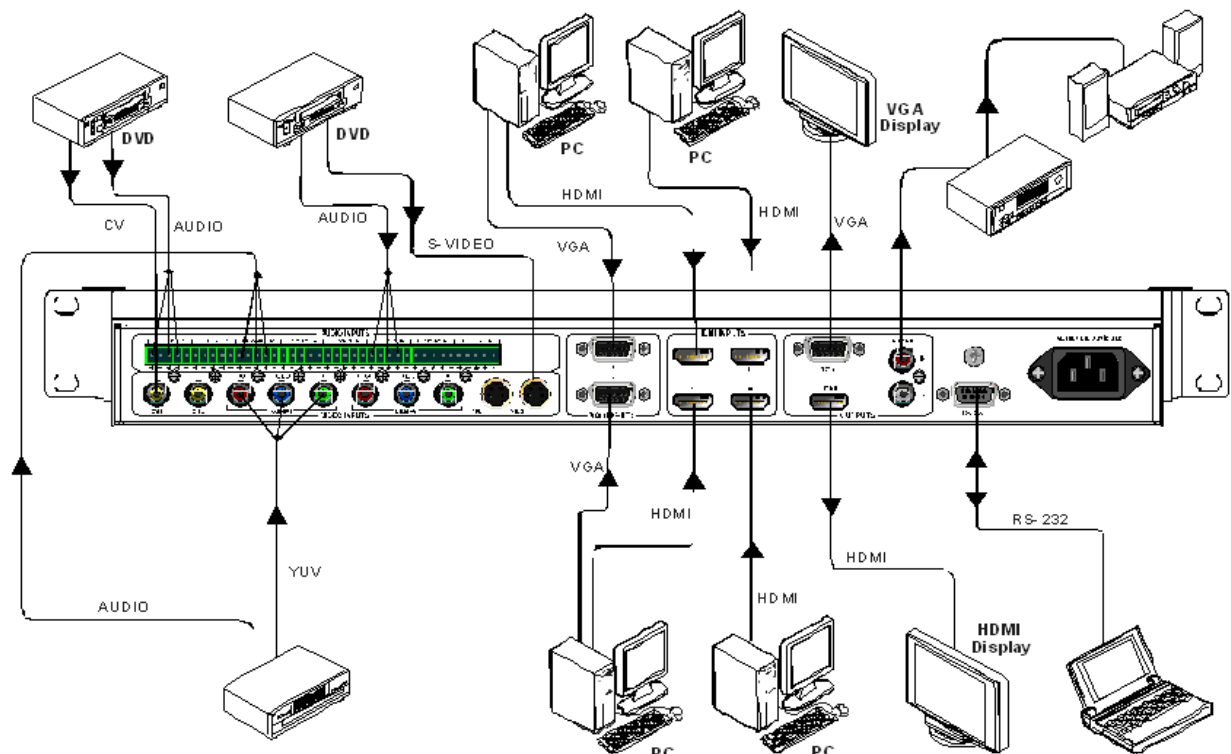
There are indicator respectively for CV signal, COMP signal, Y/C signal, VGA signal and HDMI signal. When there is signal passes by, the corresponding indicator will be lighten up.

3.2 UP-1080p Rare Panel

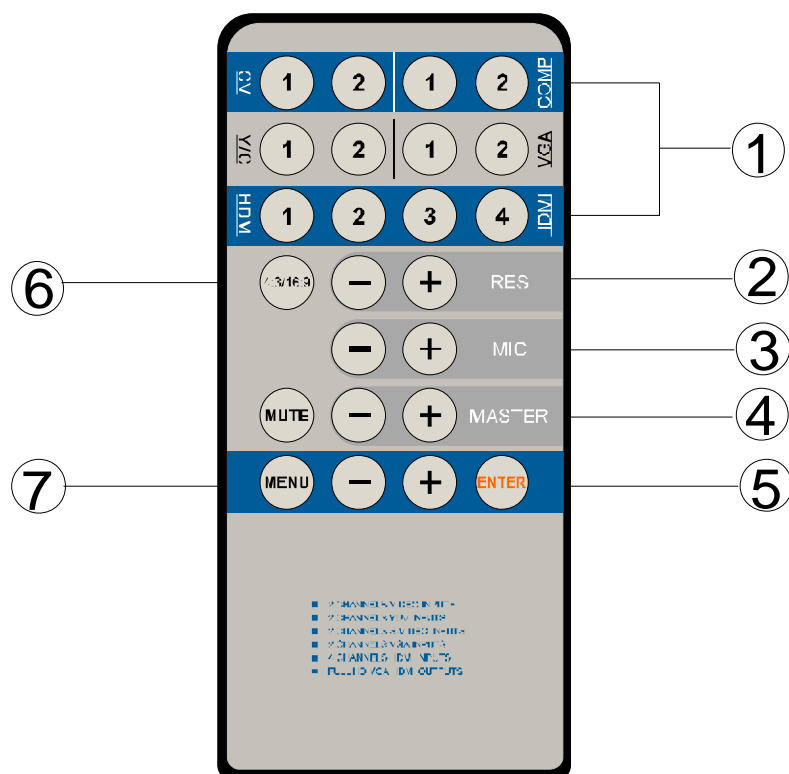


- j** 8 AUDIO INPUTS
2 for Composite Audio inputs, 2 for Component Audio input,
2 for S-Video Audio input, 2 for VGA Audio input.
- k** 6 VIDEO INPUTS
2 Composite Video, 2 S-Video Video, 2 Component Video
- l** 2 VGA INPUTS
- m** 4 HDMI INPUTS
- n** OUTPUTS
1 VGA output, 1 HDMI output, 1 Stereo output
- o** RS-232 Control port
- p** Power connector, AC100V-240V, 50Hz/60Hz

3.3 UP-1080p System Connection Diagram



4 Remote control



Remote control operation and function the same as with the front panel.

j Model and channel selection button

By using the remote controller, the user can more swiftly choose the corresponding channels for CV, COMP, Y/C, VGA and DVI/HDMI signals.

When selecting the HDMI signal input, short-press the signal source switch button (e.g.1,2, 3, 4) to choose HDMI signal source input channel; long-press signal source switch button (E.g. 1, 2, 3, 4) to choose HDMI(DVI) video signal + Y/C audio signal/VGA audio signal as the corresponding input channels (E.g. long-press 1/2 button to choose HDMI (DVI) channel 1/2 video signal + Y/C channel 1/2 audio signal as the input signal channels; long-press 3/4 button to choose HDMI(DVI) channel 3/4 video signal + VGA channel 1/2 audio signal as the input channels)

k Resolution Selection Button

Press the resolution selection button can cycle select in both directions of the following resolutions: 800×600 @60Hz, 1024×768@60Hz, 1280×720@60Hz, 1280×800@60Hz, 1280×1024@60Hz, 1366×768@60Hz, 1440×900@60Hz, 1440×1050@60Hz, 1600×900@60Hz, 1600×1200@60Hz, 1680×1050@60Hz, 1920×1080@60Hz

l Microphone volume adjust button, picture zooming selection button

m Main volume adjust selection button, MUTE button

n Enter button

o Picture mode button

Press the picture zooming selection button to select FULL/Normal/Auto three modes, and output 16:9/4:3 pictures.

p Menu function selection button

For detailed operation instructions, please refer to Chapter 11 "Menu Settings".

5 RS-232 Control code

One code includes 6 characters, please strictly follow the content in the following table:
The command must be send in one string !

RS-232 command code for UP-1080p

Baud: 9600 bps, 8, n, 1 format: ASCII

Code	Function
Video and Audio Switch Out:	
01*01!	CV1 with audio switch out
02*01!	CV2 with audio switch out
03*01!	COMP1 with audio switch out
04*01!	COMP2 with audio switch out
05*01!	Y/C1 with audio switch out
06*01!	Y/C2 with audio switch out
07*01!	VGA1 with audio switch out
08*01!	VGA2 with audio switch out
09*01!	HDMI1 with audio switch out
10*01!	HDMI2 with audio switch out
11*01!	HDMI3 with audio switch out
12*01!	HDMI4 with audio switch out
Video Switch Out:	
01*02!	CV1 video switch out
02*02!	CV2 video switch out
03*02!	COMP1 video switch out
04*02!	COMP2 video switch out
05*02!	Y/C1 video switch out
06*02!	Y/C2 video switch out
07*02!	VGA1 video switch out
08*02!	VGA2 video switch out
09*02!	HDMI1 (DVI) video switch out
10*02!	HDMI2 (DVI) video switch out
11*02!	HDMI3 (DVI) video switch out
12*02!	HDMI4 (DVI) video switch out
Audio Switch Out:	
01*03!	CV1 audio switch out
02*03!	CV2 audio switch out
03*03!	COMP1 audio switch out
04*03!	COMP2 audio switch out
05*03!	Y/C1 audio switch out
06*03!	Y/C2 audio switch out
07*03!	VGA1 audio switch out
08*03!	VGA2 audio switch out
HDMI Sound Style:	
01*04!	HDMI switch out with the Sound of MIC
02*04!	HDMI switch out without the Sound of MIC
HDMI Output Mode:	
01*05!	HDMI Output is DVI mode (disable audio on HDMI plug)
02*05!	HDMI Output is HDMI mode

General Command:	
01\$01!	MIC volume level up
02\$01!	MIC volume level down
03\$01!	Master volume level up
04\$01!	Master volume level down
05\$01!	Mute on
06\$01!	Mute off
Video Output Command:	
01\$02!	800 x 600(SVGA) at 60 Hz
02\$02!	1024 x 768 (XGA) at 60 Hz (default)
03\$02!	1280 x 720 (HDTV 720p) at 60 Hz
04\$02!	1280 x 800 at 60 Hz
05\$02!	1280 x 1024 (SXGA) at 60 Hz
06\$02!	1366 x 768 (HDTV 768p) at 60 Hz
07\$02!	1400 x 1050 (SXGA+) at 60 Hz
08\$02!	1440 x 900 at 60 Hz
09\$02!	1600 x 900 at 60 Hz
10\$02!	1600 x 1200 (UXGA) at 60 Hz
11\$02!	1680 x 1050 at 60 Hz
12\$02!	1920 x 1080 (HDTV 1080p) at 60 Hz
13\$02!	Noise Reduce : Off
14\$02!	Noise Reduce : Low
15\$02!	Noise Reduce : Mid
16\$02!	Noise Reduce : High
17\$02!	Noise Reduce : Auto
18\$02!	Scale Full 16:9
19\$02!	Scale Normal 4:3
20\$02!	Scale Auto
OSD Command:	
01\$03!	OSD Duration 5s
02\$03!	OSD Duration 15s
03\$03!	OSD Duration 30s
04\$03!	OSD Duration 60s
xx\$04!	select the OSD h-position, 00--99% (0<= xx <100)
xx\$05!	select the OSD v-position, 00--99% (0<= xx <100)
xx\$06!	select the OSD halftone, 0--8 (0<= xx <=8)
Sound Command:	
01\$07!	Sound Mode: Standard
02\$07!	Sound Mode: News
03\$07!	Sound Mode: Music
04\$07!	Sound Mode: Personal
05\$07!	Sound AVC off
06\$07!	Sound AVC on
xx\$08!	select the Sound BASS, 00--99% (0<= xx <100)
xx\$09!	select the Sound TREBLE, 00--99% (0<= xx <100)
xx\$10!	select the Sound BALANCE, 00--99% (0<=xx <100)

CV Channel Command:	
01\$11!	CV Picture Mode: Standard
02\$11!	CV Picture Mode: Dynamic
03\$11!	CV Picture Mode: Soft
04\$11!	CV Picture Mode: Personal
05\$11!	CV Color Temp: Normal
06\$11!	CV Color Temp: Warm
07\$11!	CV Color Temp: Cold
08\$11!	restore the CV settings to the default value
xx\$12!	select the CV brightness, 00--99% (0<=xx <100)
xx\$13!	select the CV contrast, 00--99% (0<= xx <100)
xx\$14!	select the CV saturation, 00--99% (0<=xx <100)
xx\$15!	select the CV sharpness, 00--20 (0<= xx <=20)
xx\$16!	select the CV hue, 00--99% (0<= xx <100)
COMP Channel Command:	
01\$17!	COMP Picture Mode: Standard
02\$17!	COMP Picture Mode: Dynamic
03\$17!	COMP Picture Mode: Soft
04\$17!	COMP Picture Mode: Personal
05\$17!	COMP Color Temp: Normal
06\$17!	COMP Color Temp: Warm
07\$17!	COMP Color Temp: Cold
08\$17!	restore the COMP settings to the default value
xx\$18!	select the COMP brightness, 00--99% (0<=xx <100)
xx\$19!	select the COMP contrast, 00--99% (0<= xx <100)
xx\$20!	select the COMP saturation, 00--99% (0<=xx <100)
xx\$21!	select the COMP sharpness, 00--20 (0<= xx <=20)
xx\$22!	select the COMP hue, 00--99% (0<= xx <100)
Y/C Channel Command:	
01\$23!	Y/C Picture Mode: Standard
02\$23!	Y/C Picture Mode: Dynamic
03\$23!	Y/C Picture Mode: Soft
04\$23!	Y/C Picture Mode: Personal
05\$23!	Y/C Color Temp: Normal
06\$23!	Y/C Color Temp: Warm
07\$23!	Y/C Color Temp: Cold
08\$23!	restore the Y/C settings to the default value
xx\$24!	select the Y/C brightness, 00--99% (0<= xx <100)
xx\$25!	select the Y/C contrast, 00--99% (0<= xx <100)
xx\$26!	select the Y/C saturation, 00--99% (0<= xx <100)
xx\$27!	select the Y/C sharpness, 00--20 (0<= xx <=20)
xx\$28!	select the Y/C hue, 00--99% (0<=xx <100)

VGA Channel Command:	
01\$29!	VGA Picture Mode: Standard
02\$29!	VGA Picture Mode: Dynamic
03\$29!	VGA Picture Mode: Soft
04\$29!	VGA Picture Mode: Personal
05\$29!	VGA Color Temp: Normal
06\$29!	VGA Color Temp: Warm
07\$29!	VGA Color Temp: Cold
08\$29!	VGA Color Temp: User
09\$29!	select VGA Auto Adjust
10\$29!	restore the VGA settings to the default value
xx\$30!	select the VGA Color temp user-R, 00--99% (0<= xx <100)
xx\$31!	select the VGA Color temp user-G, 00--99% (0<= xx <100)
xx\$32!	select the VGA Color temp user-B, 00--99% (0<= xx <100)
xx\$33!	select the VGA H-Position, 00--99% (0<= xx <100)
xx\$34!	select the VGA V-Position, 00--99% (0<=xx <100)
xx\$35!	select the VGA Clock, 00--99% (0<= xx <100)
xx\$36!	select the VGA Phase, 00--99% (0<= xx <100)
xx\$37!	select the VGA brightness, 00--99% (0<=xx <100)
xx\$38!	select the VGA contrast, 00--99% (0<= xx <100)
HDMI Channel Command :	
01\$39!	HDMI Picture Mode: Standard
02\$39!	HDMI Picture Mode: Dynamic
03\$39!	HDMI Picture Mode: Soft
04\$39!	HDMI Picture Mode: Personal
05\$39!	HDMI Color Temp: Normal
06\$39!	HDMI Color Temp: Warm
07\$39!	HDMI Color Temp: Cold
08\$39!	restore the HDMI settings to the default value
xx\$40!	select the HDMI brightness, 00--99% (0<= xx <100)
xx\$41!	select the HDMI contrast, 00--99% (0<= xx <100)
xx\$42!	select the HDMI saturation, 00--99% (0<= xx <100)
xx\$43!	select the HDMI sharpness, 00--20 (0<= xx <=20)
xx\$44!	select the HDMI hue, 00--99% (0<= xx <100)
LCD light time command:	
xx\$45!	select LCD light time. (0<= xx <=60)
EDID command:	
01\$46!	Read EDID from HDMI sink device.
Special Command:	
01#01!	read present state
02#01!	read present Firmware Version
04#01!	Reset to factory value

6 CV Settings

- Press the CV button longer than one second to enter the picture adjustment menu
- With a short button press you can toggle between brightness - contrast - saturation - sharpness - hue - restore CVBS default values
- change the value with the parameter + or – button
- press the Enter button to save the changes to the system

7 COMP Settings

- Press the COMP button longer than one second to enter the picture adjustment menu
- With a short button press you can toggle between brightness - contrast - saturation - sharpness - hue - restore COMP default values
- change the value with the parameter + or – button
- press the Enter button to save the changes to the system

8 Y/C Settings

- Press the Y/C button longer than one second to enter the picture adjustment menu
- With a short button press you can toggle between brightness - contrast - saturation - sharpness - hue - restore Y/C default values
- change the value with the parameter + or – button
- press the Enter button to save the changes to the system

9 VGA Settings

- Press the VGA button longer than one second to enter the picture adjustment menu
- With a short button press you can toggle between brightness - contrast - restore VGA default values
- change the value with the parameter + or – button
- press the Enter button to save the changes to the system

10 HDMI Settings

- Press the HDMI button longer than one second to enter the picture adjustment menu
- With a short button press you can toggle between brightness - contrast - saturation - sharpness - hue - restore HDMI default values
- change the value with the parameter + or – button
- press the Enter button to save the changes to the system

11 Menu Settings

11.1 VGA Channel Menu

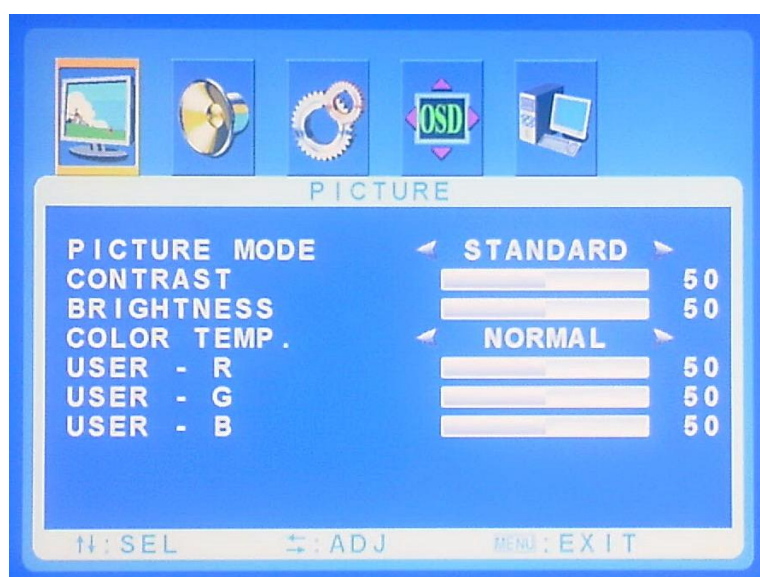
First select a VGA input and then press the "MENU" button on the remote control to enter the main menu. The menu options include: PICTURE, SOUND, ADVANCE, OSD, GEOMETRY.

In the menu interface, press the function key "-", "+" to select the appropriate menu option, and then the "ENTER" key to enter the appropriate menu option.

The option can be adjusted by "-", "+" key.

Press "MENU" to return or to exit the menu setting.

PICTURE Menu settings:



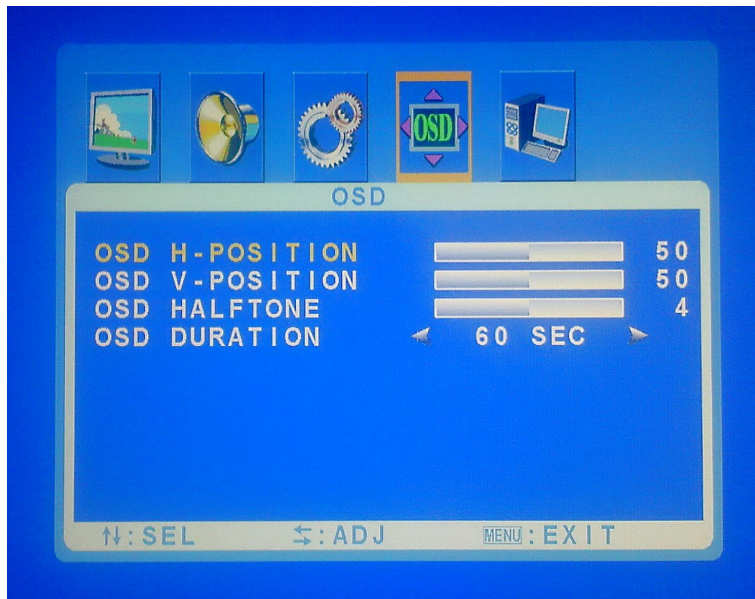
- PICTURE MODE: choose display mode, including STANDARD, Dynamic, Soft and Personal
- CONTRAST: Contrast Adjustment
- BRIGHTNESS: Brightness adjustment
- COLOR TEMP: color temperature mode selection, including Normal, Warm, Cold, User
- USER-R: when the COLOR TEMP is under User mode, R value can be set
- USER-G: when the COLOR TEMP is under User mode, G value can be set
- USER-B: when the COLOR TEMP is under User mode, B value can be set

SOUND Menu settings:

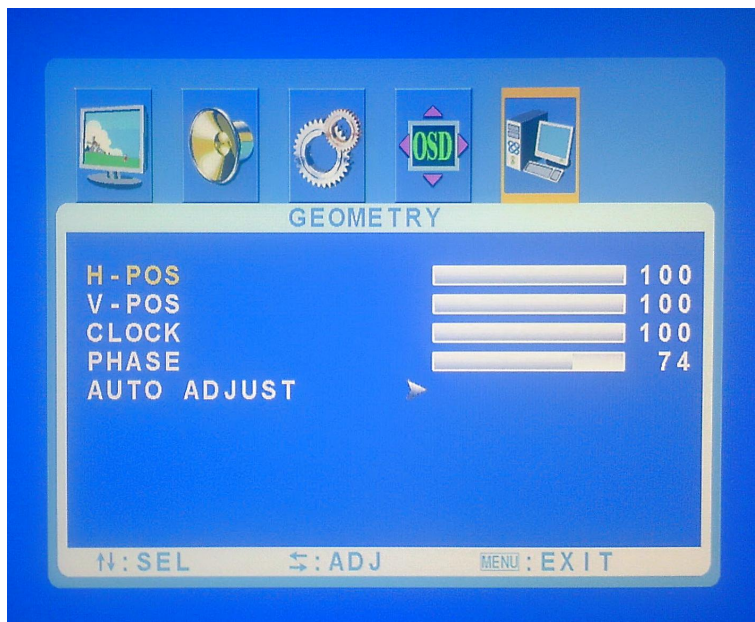
- SOUND MODE: select sound modes, including Standard, News, Music, Personal
- BASS: BASS adjustment
- TREBLE: TREBLE adjustment
- BALANCE: BALANCE adjustment
- AVC: AVC ON/OFF

ADVANCE Menu settings:

- RESOLUTION: Display resolution selection
- SCALE: display scale mode selections, including FULL, Normal, Auto

OSD Menu settings:

- OSD H-POSITION: OSD horizontal position adjust
- OSD V-POSITION: OSD vertical position adjust
- OSD HALFTONE: OSD Opacity adjustment
- OSD DURATION: OSD display duration time adjustment

GEOMETRY Menu settings:

- H-POS: display horizontal position manual adjust
- V-POS: display vertical position manual adjust
- CLOCK: clock manual adjust
- PHASE: phase manual adjust
- AUTO ADJUST: display automatic adjust

11.2 HDMI, Video, S-Video, Component Channel Menu

First select a HDMI, Video, S-Video or a Component input and then press the "MENU" button on the remote control to enter the main menu.

The menu options include: PICTURE, SOUND, ADVANCE, OSD

In the menu interface, press the function key "-", "+" to select the appropriate menu option, and then the "ENTER" key to enter the appropriate menu option.

The option can be adjusted by "-", "+" key.

Press "MENU" to return or to exit the menu setting.

Picture Menu settings:



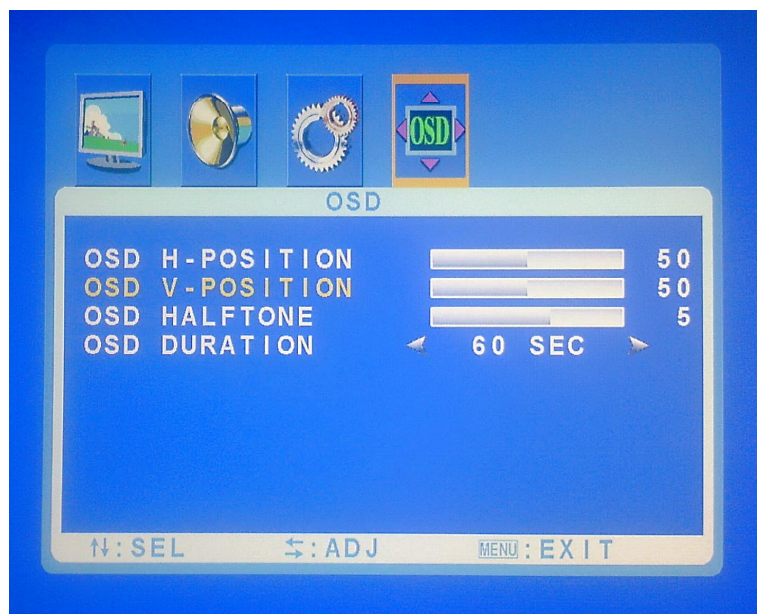
- PICTURE MODE: Including STANDARD, Dynamic, Soft, Personal option
- CONTRAST: Contrast adjustment
- BRIGHTNESS: Brightness adjustment
- HUE: Hue adjustment
- SATURATION: saturation adjustment
- SHARPNESS: acutance adjustment
- COLOR TEMP: Color temperature mode selector, including Normal, Warm, Cold, User

SOUND Menu function settings:

- SOUND MODE: select sound modes, including Standard, News, Music, Personal
- BASS: BASS adjustment
- TREBLE: TREBLE adjustment
- BALANCE: BALANCE adjustment
- AVC: AVC ON/OFF

ADVANCE Menu function settings:

- RESOLUTION: resolution selection
- NOISE REDUCE: noise reduction selection, including Off, Low, Mid, High, Auto
- SCALE: display scale modes selection, including FULL, Normal, Auto

OSD Menu function settings:

- OSD H-POSITION: OSD horizontal position adjust
- OSD V-POSITION: OSD vertical position adjust
- OSD HALFTONE: OSD Opacity adjustment
- OSD DURATION: OSD display duration time adjustment

12 Technical specifications

Video Inputs	
2 x Composite	Connector: Cinch
	Video standard: PAL, SECAM, NTSC 3.58, NTSC 4.43
2 x S-Video	Connector: 4pin MiniDIN
	Video standard: PAL, SECAM, NTSC 3.58, NTSC 4.43
2 x Component	Connector: 3 x Cinch
	Type: (YPbPr/YCbCr)
	Resolution: up to 1080i
2 x VGA	Connector: D-Sub HD 15 pin (female)
	Sync input: Separate, Composite, Sync-on-green
	Resolution: up to 1600x1200
	Horizontal scan range: 30 - 81 kHz
	Vertical scan range: 56 – 75 Hz
	Bandwidth: 170 MHz
4 x HDMI	Connector: HDMI-A
	Support protocol: HDMI 1.3a, DVI 1.0, HDCP 1.3, x. v. Color, True HD, DTS-HD
	Pixel bandwidth: 165 MHz
	Bandwidth: 2.25 Gbps
	Resolution: up to 1600x1200@60_24bit Color depth / HDTV 1920x1080p@60_24bit Color depth
	Input EDID: Use the system default EDID, EDID support for the terminal is mapped to the input
	Maximum input cable length: Less than 25 meter, 1920x1080p @ 60Hz
	Recommend to use a HDMI certified cable
Audio Input	
8 x Audio Stereo	Connector: 4 x Phoenix 10pin connector balanced audio input
	Bandwidth: 20 Hz ~ 20 kHz
	Impedance: Input: >10 kΩ (Balance/ Unbalanced)
	Max input level: +19.5 dBu, (Balance/ Unbalance)
	Input mapped by default to the analog video inputs
1 x Microphone	Connector : 6,3 mm jack
	MIC Type: Dynamic Sensor
	Input Sensitivity: 25 mV
	Bandwidth: 50 Hz ~ 16 KHz
Video Output	
1 x VGA	Connector: D-Sub HD 15 pin (female)
	Signal type: RGBHV
1 x HDMI	Connector: HDMI-A
	Resolution: 800x600 @60Hz, 1024x768@60Hz, 1280x720@60Hz, 1280x800@60Hz, 1280x1024@60Hz, 1366x768@60Hz, 1440x900@60Hz, 1440x1050@60Hz, 1600x900@60Hz, 1600x1200@60Hz, 1680x1050@60Hz, 1920x1080@60Hz
	Audio: Audio output on HDMI can be switched off
	Maximum output cable length: Less than 10 meter, 1920x1080p @ 60Hz
	Recommend to use a HDMI certified cable
Audio Output	
1 x digital Audio	On HDMI output, Audio can be switched off
1 x analog Audio	Connector: 2 x RCA
	Impedance: 50 Ω
	Max output level: +19.5dBu

Functions	
	All inputs will be scaled to the defined output resolution
	Parallel video output by HDMI and VGA
	Parallel audio output by HDMI and analog stereo
	Volume control of the Microphone
	Master volume
	Switching: Audio follows Video and Break away
Control	
RS-232	Connector: RS-232, D-Sub 9-pin
Front panel	Input selection, Output resolution selection, Volume control
IR Remote	Input selection, Output resolution selection, Volume control, Aspect ratio control, Menu
Other	
	Power: 100 – 240 VAC, 50/60 Hz
	Temperature: -20 to +70° C
	Humidity: 10% - 90%
	Dimension: 483 x 230 x 44 mm (L x W x H), 19" / 1 RU
	Product weight: 1.9 kg
	Mean time between failure: 30,000 hour
	Guarantee: 1 year warranty

13 Troubleshooting

- When the peripheral equipment connected to UP-1080p displays ghost image, eg. the projected ghost image, the reason might be that the projector has not been correctly adjusted or the cable's quality does not meet the requirements. The user can re-adjust the projector's settings and replace the cables.
- When there is color loss or no video signal output, the reason might be that the VGA cable has not been correctly connected or there is open circuit (short circuit) on the cable.
- When the remote controller cannot control the UP-1080p:
 - Change the battery
 - The remote controller is broken, please repair the remote controller
- When the serial ports (generally refer to the PC's serial ports) cannot control the UP-1080p, please check if the communication port set by the control program is correspond to the equipment's serial port, and if the PC's communication port is in proper status or if the protocol is right.
- UP-1080p returns code but no video signal output:
Please check if there is a signal input (oscilloscope or multimeter can be used for the inspection). If there is no signal input, it might because that the input cable is loose or broken. Please fix the cable or replace it.
- When the POWER indicator is off, no display on the LCD screen and no response to the operation, please check the power supply to the equipment.
- When the output image is interfered, the reason might be that the I/O equipment has not been well grounded.
- When plug or unplug the AV connectors, if the user feels obvious static electric, it might because that the equipment has not been well grounded. The user should ground the equipment properly, or the equipment might be damaged, and its useful life can be shortened.
- When LCD displays normally and there is return code, but no video or audio output:
 - The AV connectors might be loose, please check and replace
 - Maybe there is short circuit, please check and replace
 - Maybe there is open circuit, please check and replace
- When the front panel, serial ports and remote controller cannot control the UP-1080p, the reason might be that the equipment inside is broken, please send the equipment to COMM-TEC for repair.